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ABSTRACT

This book details the findings from a research team that used cognitive principles and a large range of experiments to devise a variety of instructional designs. Their recommendations are based on 20 years of objective, published research. Although the program focused on technical subjects, the findings can easily be applied to a range of language-based, non-technical areas. Topics include aspects of cognitive architecture relevant to instructional design, cognitive load theory, instructional designs associated with learning to solve problems, and mixing audio and visual materials. The book provides instructional designers, teachers, trainers, and education students with techniques to develop students' understanding, learning, and problem solving. There are eight chapters: (1) "Our Cognitive Architecture," (2) "Element Interactivity and Intrinsic Cognitive Load," (3) "Cognitive Load Theory," (4) "Instructional Designs Associated with Learning to Solve Problems," (5) "Formatting Text and Diagrams: Worked Examples and the Split-Attention Effect," (6) "Formatting Text and Diagrams: Initial Instructions and the Split-Attention and Redundancy Effects," (7) "Mixing Audio and Visual Materials," and (8) "Some Consequences of our Cognitive Processes for Instructional Procedures." (SM)

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